

Rotavirus Vaccine Cut Hospitalizations by 86%

BY MITCHEL L. ZOLER

PHILADELPHIA — The rotavirus vaccine introduced in early 2006 worked as intended, cutting the U.S. rate of rotavirus-associated diarrhea requiring hospitalization in children younger than 2 years from July 2007 through June 2008 by 86%, compared with rates during 2000-2006, according to an analysis of a large U.S. private insurance database.

"The first rotavirus season post vaccine introduction showed a substantial decline, to a level below the lowest rate of prior years," Dr. Jennifer E. Cortes said in an interview while presenting a poster at the annual meeting of the Infectious Diseases Society of America. "The reduction was lower than in the clinical trials, where vaccine effective-

'The reduction [in diarrhea-causing hospitalizations] was lower than in the clinical trials, where vaccine effectiveness was more than 95%, but it was still effective in the real world.'

ness was more than 95%, but it was still effective in the real world," said Dr. Cortes, an epidemic intelligence service officer in the division of viral diseases of the Centers for Disease Control and Prevention.

The data also showed a significant impact of rotavirus vaccination on the incidence of all diarrhea that led to hospitalization in children younger than 2 years during July 2007 through June 2008, cutting this rate by 39%, compared with the average during 2000-2006.

Experience using the rotavirus vaccine since its U.S. introduction more than 3.5 years ago confirms its safety, with no unexpected reports of vaccine-associated adverse effects and no link with excess cases of intussusception, the adverse effect that torpedoed the first rotavirus vaccine, RotaShield, Dr. Cortes said.

The data reported by Dr. Cortes reflected a time when rotavirus vaccination was overwhelmingly by the RotaTeq formulation, introduced in early 2006. Last year, a second vaccine, Rotarix, came onto the U.S. market. An employee of the CDC, Dr. Cortes said he had no financial relationships to disclose.

She and her associates analyzed data collected in the MarketScan claims-based database, which collects data on a subset of privately insured U.S. residents. The database included records for about 2 million children younger than 5 years for the period 2007-2008.

The data showed that following RotaTeq's U.S. introduction, its use in children younger than 1 year gradually rose, reaching 63% coverage of children 11 months or younger by the end of December 2007.

The recommended U.S. schedule for administering RotaTeq is at 2, 4, and 6 months of age, with no allowance for

catch-up vaccination if one or more of these doses are missed, Dr. Cortes noted.

With vaccine coverage at 63% during the midpoint of the July 2007 to June 2008 rotavirus season studied, the 86% vaccine effectiveness rate seen was "greater than expected," she reported.

The data also showed that hospitalization for rotavirus-associated diarrhea was reduced in older children, 2-4 years

old, who never received rotavirus vaccination. These findings suggest a herd effect, a hypothesis now under investigation by the CDC, Dr. Cortes said.

The data she and her associates collected also showed an estimated \$211 million/year savings in diarrhea-associated health care costs in children younger than 5 years that linked to rotavirus vaccine use during the period studied.

Laboratory surveillance data for the

period from July 2008 through June 2009 indicated that the benefits seen in the 2007-2008 season continued into the most recent rotavirus season.

Data that Dr. Cortes and her associates reported in October showed that the peak rate of rotavirus positive test results was 17% during 2007-2008, and 25% in 2008-2009, down from an average annual rate of 43% during the period from 2000 to 2006 (MMWR 2009;58:1146-9). ■



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